book review

Reversal of Risk after Quitting Smoking

IARC HANDBOOKS OF CANCER PREVENTION
Tobacco Control
Volume 11
2007

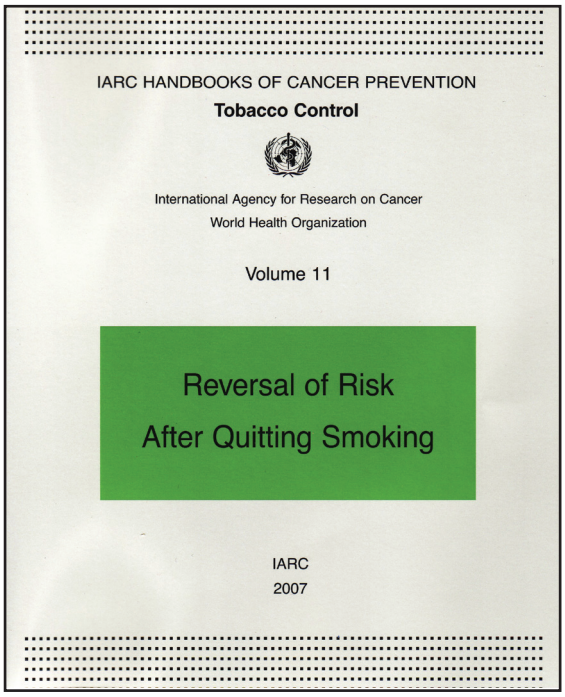
World Health Organization
Geneva, Switzerland

The 11th Handbook of Cancer Prevention from the WHO's International Agency for Research on Cancer presents a comprehensive review of the scientific literature and a thorough evaluation, by an international group of experts, of the evidence for changes in the risk of certain cancers, vascular diseases, and lung diseases following smoking cessation. The main goal of the handbook is provide scientific evidence on the health benefits of smoking cessation in support of recommended public health and public policy decisions.

The handbook is organized around the following three questions, identifying the research and presenting recommendations relevant to each question:

1. Is the risk of disease lower in former smokers than in otherwise similar current smokers?
2. What is the time course of the reduction in risk with continued abstinence or, among otherwise similar former smokers, does the risk of disease lower with more prolonged abstinence?
3. Does the risk return to that of never smokers after long periods of abstinence?

The answers are presented clearly and succinctly in a final section of the 348-page report, which also summarizes the level of evidence available for specific diseases (Table, next page). The main body of the report deals separately, citing full references, with the eventual effects of smoking, and of smoking cessation, on cancers of the lung, mouth, pharynx, larynx, esophagus, stomach, liver, pancreas, kidney, bladder or cervix, as well as heart disease, stroke, other vascular diseases and chronic obstructive lung disease. Cancer, chronic obstructive pulmonary disease and vascular diseases represent the three main causes of smoking-attributable deaths worldwide. While individual studies of smoking cessation usually deal with one disease, the authors point out that the benefits of cessation extend across all of the diseases caused by cigarette smoking. "Thus, the examination of changes in specific risks contained in this volume are accurate descriptions of the changes in risk for that individual disease, but they dramatically underestimate the total benefit of cessation, the sum of the risk reductions for each of the specific diseases caused by tobacco smoking."



The report is dedicated to Richard Doll (1912-2005), one of the principal epidemiologists who showed that smoking was linked to lung cancer and increased the risk of heart disease. The 50-year results of his study showed that smokers lose about 10 years of life expectancy and that stopping smoking regains much or all of that life expectancy. Doll smoked for 20 years, quitting after the first results of his studies emerged, and lived into his ninth decade. In 2005, Dr. Doll received the King Faisal International Prize for Medicine, awarded by the King Faisal Foundation.

The handbook is US$45 and can be ordered from *www.who.int/bookorders*.

Adequacy of evidence to address questions on the effects of smoking cessation on risk of disease.

Disease	Risk for Former Smokers (1)	Risk with Prolonged Abstinence (2)	Residual Increased Risk (3)
Cancers			
Lung cancer	■	■	■
Laryngeal cancer	■	■	■
Oral cancer	■	■	■
Squamous cell esophageal cancer	■	■	■
Esophageal adenocarcinoma	□	□	□
Stomach cancer	■	☒	□
Liver cancer	☒	□	□
Pancreatic cancer	■	■	☒
Bladder cancer	■	■	■
Renal cancer	■	☒	□
Cervical cancer	■	■	■
Myeloid leukemia	+/-	□	□
Nasopharyngeal cancer	☒	□	□
Sinonasal cancer	□	□	□
Vascular Disease			
CHD incidence and death in subjects without established diseases	■	■	■
CHD incidence and death in those with clinical evident disease	■	■	Not Applicable
Cerebrovascular disease incidence and death for those without established disease	■	■	☒
Cerebrovascular disease incidence and death for those with clinical disease	□	□	Not Applicable
Aortic aneurysm incidence and death for those with established disease	■	☒	☒
Aortic aneurysm incidence and death for those with clinical disease	■	□	Not Applicable
PAD incidence and death for those without established disease	■	☒	☒
PAD incidence and death for those with clinical disease	☒	☒	Not Applicable
Lung Disease			
Cough and phlegm production	■	■	■
Decline in FEV_1 in healthy subjects	■	■	■
Decline in FEV_1 for those with mild/moderate disease	■	■	Not Applicable
Decline in FEV_1 for those with severe disease/ Morbidity	■	■	Not Applicable
Mortality from COPD	■	■	☒

Level of evidence to address questions: ■Adequate: The evidence is adequate to draw a clear conclusion on the question; ☒Limited: The evidence to answer the question is suggestive; the interpretation is considered by the Working Group to be credible, but chance, bias, confounding or other factors cannot be adequately evaluated; +/- Conflicting: The data provide conflicting answers to the question; □Absence of Observations: There is an absence of data or data are inadequate to address the question. FEV_1: Forces expiratory volume in one second; CHD: Coronary Heart Disease; PAD: Peripheral Artery Disease. Reproduced with permission, International Agency for Research on Cancer, World Health Organization.